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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,229	09/24/2003	Leonard Forbes	MI22-2272	8204
21567	7590	09/25/2006	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			PHAM, LONG	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/671,229	Applicant(s) FORBES, LEONARD	
	Examiner Long Pham	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-39, 48 and 49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-19, 29-39, and 49 is/are allowed.
- 6) ☒ Claim(s) 14-16, 20-28 and 48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Rejections and/or objections as previously applied

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 14, 15, 16, 20-28, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (US publication 2003/0010980) in combination with Joret et al. (US patent 6,924,037).

With respect to claim 14, Yamazaki et al. teach an electronic apparatus fabrication method comprising (fig. 10A and associated text):

forming an insulative substrate 200 of an aluminum-based glass; and
forming a layer 202 comprising of semiconductor material over a substrate.

Further with respect to claim 14, Yamazaki et al. fail to teach that the insulative or glass or transparent substrate further comprises of aluminum oxycarbide.

Joret et al. teach forming a transparent or glass substrate comprises of aluminum oxycarbide to withstand high temperature annealing, bending or toughening. See col. 2, lines 5-20 and col. 8, lines 1-10.

It would have been obvious to one of ordinary skill in the art of making semiconductor devices to add aluminum oxycarbide to the glass or insulative substrate of Yamazaki et al. to achieve the above benefit.

With respect to claim 15, Yamazaki et al. further teach a semiconductor device comprising at least a part of the semiconductor material layer. See fig. 10A and associated text).

With respect to claim 16, Yamazaki et al. fail to teach the semiconductor layer is formed directly on the insulative substrate.

However, the formation of a semiconductor layer directly on an insulative

substrate is well-known.

With respect to claims 20, 21, and 22, since Yamazaki et al. in combination with Joret et al. teach an insulative substrate made of aluminum based glass that comprises of aluminum oxycarbide as claimed and the semiconductor layer as claimed, the substrate inherently would exhibit a CTE sufficiently close to a CTE of the semiconductor layer such that a strain of less than 1 percent would exist between the semiconductor layer having a thickness of 1000 angstroms or less and insulative substrate.

With respect to claim 23, it is well-known to remove a silicon layer from a silicon wafer and bond the silicon layer to an insulative substrate.

With respect to claim 24, it is well-known to remove a layer of silicon by ion implantation.

With respect to claim 25, it is well-known to bond silicon layer by heating. Further with respect to claim 25, the heating temperature is an optimizable parameter.

With respect to claim 26, it is well-known to bond silicon layer by laser.

With respect to claim 27, it is well-known to bond silicon layer by plasma.

With respect to claim 28, it is well-known to chemically-mechanically polish the semiconductor layer.

With respect to claim 48, Yamazaki et al. appear to fail to teach the insulative substrate further comprises of silicon.

However, the formation of substrate comprises of silicon is well-known in the art.

Response to Arguments

Applicant's arguments filed 06/29/06 have been fully considered but they are not persuasive. See below.

In response to the applicant's arguments in the paragraphs on page 2 and the paragraph bridging pages 2 and 3, it is submitted that Joret et al. that the

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substrate made of glass (see col. 2, line 19) and Joret et al. further teach the substrate is made from layer or layers comprising of aluminum oxycarbide (see col. 7, lines 1-20). Further it is submitted that a prior art reference is evaluated by what it suggests to one versed in the art, rather than by its specific disclosure, In re Bozek, 163 USPQ 545 (CCPA 1969) and a reference is considered not only for what it expressly states, but for what it would reasonably have suggested to one of ordinary skill in the art, In re DeLisle, 160 USPQ (CCPA 1969). In this case, Joret et al. suggest the use of glass substrate having aluminum oxycarbide.

In response to the applicant's arguments in the first full paragraph on page 3, it is submitted that the motivation for using glass substrate having aluminum oxycarbide is to withstand high temperature annealing during subsequent processes.

In response to the applicant's arguments in the paragraph bridging pages 2 and 3, it is submitted that the Examiner alleges the removal of a silicon layer from a silicon wafer and bonding the silicon layer to an insulative substrate is well-known. The applicant does not challenge this statement.

Allowable Subject Matter

Claims 17-19, 29-39, and 49 are allowed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory

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action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Long Pham whose telephone number is 571-272-1714. The examiner can normally be reached on Mon-Frid, 10am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Long Pham

Primary Examiner

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LP